No. 8200033

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Northrup King Co.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COMMON WHEAT

'817'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 17th *day of* June *in the year of our Lord one thousand nine hundred and* eighty-two.

Attest:

Kenneth A. Evans
Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
75W 171	817	PV NUMBER 8200033
2. KIND NAME: Common Wheat	3. GENUS AND SPECIES NAME: Triticum aestivum Lin.	FILING DATE 12/7/81 / TIME 11:00 (A.M.) P.M.
4. FAMILY NAME (BOTANICAL): Gramineae	5. DATE OF DETERMINATION: August 1979	FEE RECEIVED $ 500.00 $ 250.00 / DATE 12/7/81 3/29/82
6. NAME OF APPLICANT(S): Northrup King Co.	7. ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*): 1500 Jackson St. N.E. Minneapolis, MN 55413	8. TELEPHONE AREA CODE AND NUMBER: 612-781-5305

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (*Corporation, partnership, association, etc.*)	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Delaware	1896

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:
Robert W. Romig
Northrup King Co.
1500 Jackson St. N.E., Minneapolis, MN 55413

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [ ] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [X] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

DECEMBER 1, 1981
(DATE)

Robert W. Romig
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

8200033

EXHIBIT A
Origin and Breeding History of the Variety

Variety 817 is the result of hybridization, individual plant selection and individual head selection from the cross Ottawa/Sturdy//Kaw 61*5/Agent. Our pedigree for this variety is N2583-0I-6A-1K-ON.

We made the cross in the greenhouse at Eden Prairie, Minnesota, in the spring of 1970. The female parent, Ottawa/Sturdy, was an F1 made in the greenhouse in 1969. The F1 from the three-way cross was grown in the greenhouse later in 1970. In 1971 an F2 bulk population was planted in southern California. In 1971-72 a space planted F3 population was grown and selected in Arizona. The F4 plant row was grown at Pratt, Kansas, in 1972-73 and again a plant selection was made. The F5 plant row was grown at York, Nebraska, in 1973-74 and harvested in bulk to provide seed for preliminary yield trials. Seed from the preliminary yield trial (F6) was used to plant an advanced trial (F7) at Pratt in 1975-76. From the advanced yield trial plot at Pratt, fifteen heads were selected to begin our head-row program at Yuma, Arizona. In 1976-77 four F8 head-row selections were harvested in Arizona. These were each yield tested and increased individually as pure-line bulks at Pratt in 1977-78. On the basis of field performance in 1977-78 and 1978-79, we selected one F8 head-row-derived line, 79AWH30012, to represent the variety.

The variety is uniform and stable. There are no unusual or characteristic variations.

Foundation seed produced in 1980 has been inspected and approved by the Colorado Seed Growers Association.

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EXHIBIT B
Novelty Statement

Variety 817 is most similar to "Bennett" except that 817 has shorter plant height and longer beaks on the glumes. Plant height for 817 averages 8 cm shorter than Bennett. Beak length for 817 ranges from 2 mm at the base to 25 mm in length at the terminal spike end, whereas beaks for Bennett range from 2 mm to 5 mm in length from the base to the terminal end.

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Northrup King Co.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
1500 Jackson St. N.E.
Minneapolis, MN 55413

FOR OFFICIAL USE ONLY
PVPO NUMBER 8200033
VARIETY NAME OR TEMPORARY DESIGNATION 817

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER *(Specify)* _____ [2] 1 = SOFT 2 = HARD 3 = OTHER *(Specify)* _____

[2] 1 = WHITE 2 = RED 3 = OTHER *(Specify)* _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[ ][ ][ ] FIRST FLOWERING [ ][ ][ ] LAST FLOWERING

4. MATURITY *(50% Flowering)*:
[ ][ ] NO. OF DAYS *EARLIER* THAN ..... [ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[0][4] NO. OF DAYS *LATER* THAN ..... [8] 4 = LEMHI 5 = NUGAINES 6 = LEEDS 7 = Centurk 8 = Vona

5. PLANT HEIGHT *(From soil level to top of head)*:
[0][9][4] CM. HIGH
[0][2] CM. TALLER THAN ..... [8] 7 = Centurk 8 = Vona
[1][4] CM. SHORTER THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING *(See reverse)*:
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[0][3] NO. OF NODES *(Originating from node above ground)*
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[1][9] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER *(Specify)*: _____
[ ] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[1][0] MM. LEAF WIDTH *(First leaf below flag leaf)*
[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[2][4] CM. LEAF LENGTH *(First leaf below flag leaf)*:

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER *(Specify)* _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER *(Specify)*: _____

[0][7] CM. LENGTH

[0][7] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT *(CA. 7 mm.)* 2 = MEDIUM *(CA. 8 mm.)* 3 = LONG *(CA. 9 mm.)*

[2] Width: 1 = NARROW *(CA. 3 mm.)* 2 = MEDIUM *(CA. 3.5 mm.)* 3 = WIDE *(CA. 4 mm.)*

[1] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[1] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[5] Phenol reaction *(See instructions)*: 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER *(Specify)* _____

[0][7] MM. LENGTH

[0][3] MM. WIDTH

[3][4] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[2] STEM RUST *(Races)* 15B2

[2] LEAF RUST *(Races)* Unknown

[0] STRIPE RUST *(Races)* _____

[0] LOOSE SMUT

[0] POWDERY MILDEW 151QSH

[0] BUNT

[1] OTHER *(Specify)* Soil-borne mosaic virus

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID *(Bydv.)*

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[ ] OTHER *(Specify)* _____

HESSIAN FLY RACES: [2] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Bennett	Seed size	Bennett
Leaf size	Bennett	Seed shape	Bennett
Leaf color	Bennett	Coleoptile elongation	Bennett
Leaf carriage	Bennett	Seedling pigmentation	Bennett

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. *(See attachment.)*

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

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EXHIBIT D
Additional Description of the Variety

Variety 817 is a cultivar of Triticum aestivum L. with winter growth habit. The kernels are hard, red, and ovate to elliptical in shape with rounded cheeks. The brush is midlong. The spike is awned, lax to middense, and fusiform to oblong in shape. The glumes are white, glabrous, midlong, and midwide.

This is a semidwarf wheat slightly taller than Vona. Resistance to lodging is intermediate between Vona and Centruk. relative maturity is medium late. Winter survival is comparable to that of Centurk and Scout 66. Days to heading for 817 at Pratt, Kansas, has ranged from 1 to 4 days later than Scout 66. At York, Nebraska, days to heading for 817 have averaged one day later or equal to Scout 66. This variety is resistant to stem rust (Puccinia graminis f. sp. tritici), races 15B-2 and 151 QSH. Field ratings for leafrust (P. recondita) indicate 817 is moderately resistant to the prevalent races in 1978-79. Variety 817 is resistant to the Great Plains biotype of Hessian Fly (Mayetiola destructor (Say)).

The coleoptile color is white and seedling anthocyanin is absent. Juvenile plant growth is semi-prostrate to prostrate. Plant color at booting is green to dark green. Waxy bloom is present on the stem and flag leaf sheath. The auricles have no anthocyanin. The stem is hollow and has no anthocyanin. Three to four nodes originate from the node above ground.

Overall quality for bread is comparable to that of varieties Scout 66 and Centurk.

Variety 817 is adapted to the winter wheat growing areas of Colorado, Kansas, Nebraska, and the panhandles of Texas and Oklahoma.

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Table 1. Plant Height Comparisons of Variety 817 with Check Varieties in 1980 Nebraska Variety Tests

Location	Plant Height (cm)				
	817	Scout 66	Ctk 78	Bennett	Vona
Clay Co.	91	114	122	107	94
Kearney Co.	81	102	91	89	76
Lincoln Co.	86	102	99	91	86
Hayes Co.	91	117	112	104	94
Keith Co.	76	94	86	74	69
Average	85	106	102	93	84

Table 2. Thousand Kernel Weight Results in 1980 Nebraska Variety Tests

Location	Thousand Kernel Weight of Variety		
	817 CMS	Ctk 78 GMS	Bennett GMS
Gage Co.	37.1	32.8	36.5
Clay Co.	30.1	27.1	31.8
Kearney Co.	34.4	29.8	34.1
Lincoln Co.	28.4	24.9	31.4
Hayes Co.	32.6	27.8	32.0
Keith Co.	34.6	29.6	31.1
Average	32.9	28.7	32.8

Table 3. Agronomic Characteristics of 817 in Comparison to Checks Summarized from Northrup King Trials in 1978 and 1979

	817	Centurk	Vona	Scout 66
Height cm	94	105	91	110
Test Wt. kg/hl	72.7	74.0	71.7	74.1
Heading Date	147	146	143	145
Lodging (0-9) 1/	3	4	2	6
Winter Survival (0-9) 2/	8	8	5	8
Shattering (0-9) 1/	2	2	2	3
Leaf Rust (Field)	R	S	MS	S
Stem Rust (Field)	R	R	R	R
Soil Borne Mosaic Virus	MS	MS	S	S

1/ 0-9 scale where 0 is best and 9 is poorest

2/ 0-9 scale where 0 = no survival; 1 = 10-19% survival; 9 = 90-100% survival

3/ 0 = resistant; 1 and 2 = moderately resistant; 3 = moderately susceptible; 4 = susceptible

Table 4. Quality Characteristics of Samples Grown at York, Nebraska

Characteristics	1978		1979	
	817	Centurk	817	Centurk
Wheat Protein	14.9	14.0	13.60	13.75
Test Weight	56.8	58.1	62.6	62.7
Milling & Ext.	65.9 F	68.5 G-	66.5 F	69.0 G-
Farinograph				
Absorption	64.6	61.0	60.9	60.4
Peak	13.5	11.0	7.25	6.25
Stability	55.0	29.0	13.5	16.5
MTI	10	10	25	25
Valorimeter	90	83	66	65
Flour				
Ash	.420	.388	.372	.352
Protein	13.40	12.85	12.20	12.60
Bake				
Absorption	67.0 VG-	64.0 G	64.0 G	63.0 F
Mix	6.25 G-	8.25 F	5.00 VG	5.00 VG
Dough	6 G	5 G-	6 G	6 G
Loaf Vol. cc	1000 Ex-	995 G+	985 VG	1000 EX
Score	30 G-	29 G-	32 G	35 VG
Overall Score	60 G-	60 G-	61 G	64 G

Table 5. Quality Characteristics of Samples Grown at Pratt, Kansas

Characteristics	1978		1979	
	817	Centurk	817	Centurk
Wheat Protein	13.5	13.21	13.00	12.60
Test Weight	61.3	58.9	62.3	59.9
Milling & Ext.	64.8 F-	65.7 F	69.6 G-	67.5 F
Farinograph				
Absorption	60.6	60.5	66.3	59.0
Peak	6.50	6.50	4.50	8.00
Stability	28.0	18.9	8.50	45.0
MTI	20	24	45	20
Valorimeter	69	67	57	75
Flour				
Ash	.436	.416	.420	.379
Protein	11.90	11.71	11.85	11.35
Bake				
Absorption	63.5 G	63.4 G	68.5 VG	62.5 G-
Mix	4.00 G	4.65 G+	2.50 F	6.50 G-
Dough	6 G	6 G	5 G-	5 G-
Loaf Vol. cc	930 G	885 G	910 G	900 G
Score	30 G	29 G	25 G-	28 G-
Overall Score	56 G-	56 G-	53 G-	55 G-